

What is tularemia?

Tularemia, also known as rabbit fever or deerfly fever, is caused by infection with the bacterium *Francisella tularensis*. There are several ways that people can become infected with tularemia, including tick and deerfly bites, contact with infected animals, drinking contaminated water or breathing in contaminated dusts or aerosols. The type of illness and severity of symptoms vary depending upon how infection occurs. Tularemia is treatable with antibiotics, and most people recover completely.

Do we have tularemia in Vermont?

Only one case of tularemia has been documented in Vermont since 2001, and the last major outbreak in Vermont occurred in 1968. At the time of the outbreak, forty-seven people in Addison County were diagnosed within a four-week period. All of the ill people had a history of handling or trapping muskrats, and the outbreak was linked to human contact with such animals. In recent years, the majority of New England tularemia cases have occurred in residents and visitors to Martha's Vineyard in Massachusetts.

How is tularemia spread?

Tularemia is a rare disease, but there are several ways a person can become infected. The most common way is when blood or tissue from an infected animal comes in direct contact with broken skin or mucous membranes. This can occur when people handle, dress or skin infected animals. The animals that are most commonly infected with tularemia are rabbits and hares, but muskrats, squirrels and rodents have also been known to carry the disease.

In addition, bacteria may enter the body through contact with fluids from infected flies or through the bite of an infected tick. In the Northeast, ticks that transmit tularemia to humans include the dog tick, *Dermacentor variabilis*, and the lone star tick, *Amblyomma americanum*.

Drinking contaminated water, breathing in contaminated dust, and eating undercooked meat from infected rabbit or hare are other possible ways people can be infected. Tularemia cannot be spread from one person to another.

What are the symptoms of tularemia?

The symptoms of tularemia vary depending upon the route of transmission. Frequently, they include sudden onset of fever, chills, headache, muscle aches, chest pain and coughing. When the disease is transmitted through a break in the skin, an ulcer may form near the site of exposure and nearby lymph glands become swollen. If the bacteria come into contact with an eye, irritation of the eye may occur, accompanied by swelling of the lymph glands in front of the ear.

Eating or drinking contaminated food or water may produce a throat infection, stomach pain, vomiting and diarrhea. Breathing in the organism may cause a fever with or without

a pneumonia-like illness. Complications include bone infections, meningitis, pneumonia and respiratory failure.

Who is at risk for getting tularemia?

Anyone who spends time outdoors where infected animals or insects are found is at risk of getting this disease. Tularemia has been documented in every state of the United States except Hawaii, and most infections occur between May and August. Rabbit hunters and trappers are at a heightened risk for exposure to this disease. In areas with a lot of tularemia, landscapers and people who mow lawns are at an increased risk as well. The risk is generally low in Vermont.

What is the treatment for tularemia?

Antibiotics are effective in treating tularemia. Although symptoms may last for several weeks, most patients completely recover. If untreated, about 5% of infections are fatal. A vaccine for tularemia is under review by the Food and Drug Administration but is not currently available in the United States.

How do you prevent tularemia?

When hiking, camping or working outdoors:

- Use insect repellants containing 20% to 30% DEET, picaridin or IR3535.
- Wear long pants, long sleeves, and long socks to keep ticks and deer flies off your skin.
- Use the insect repellent permethrin on your clothing and gear.
- Remove attached ticks promptly with fine-tipped tweezers.
- Don't drink untreated surface water.

When mowing or landscaping:

- Don't mow over sick or dead animals
- Consider using dust masks to reduce your risk of inhaling the bacteria.

When hunting, trapping or skin animals:

- Use gloves when handling animals, especially rabbits and other rodents
- Cook game meat thoroughly